Project Design Phase-I

Problem-Solution fit Template

Date	1 October 2022
Team ID	PNT2022TMID36549
Project Name	Flight Delay Prediction System Using Machine Learning

1.CUSTOMER SEGMENTS

Flight delays are gradually increasing and bring more financial difficulties and customer dissatisfaction to airline companies. To resolve this situation, supervised machine learning models were implemented to predict flight delays.

6.CUSTOMER LIMITATIONS

The results show that adverse weather conditions, low ceilings, and low visibility conditions strongly influence flight delays. Similarly, Asfe et al. Investigated the major causal factors of flight delays by ranking different factors using the analytical hierarchical process.

5.AVAILABLE SOLUTIONS

Therefore, predicting flight delays can improve airline operations and passenger satisfaction, which will result in a positive impact on the economy. In this study, the main goal is to compare the performance of machine learning classification algorithms when predicting flight delays..

2.PROBLEM/PAINS

Flight delays not only irritate air passengers and disrupt their schedules but also cause a decrease in efficiency, an increase in capital costs, reallocation of flight crews and aircraft, and additional crew expenses

9.PROBLEM ROOT/CAUSE

Fight delay prediction problem can be treated by Different point of view: (i) delay propagation, (ii) root delay and cancellation. In delay propagation, one study how delay propagates through the network of the transportation system .On the other hand, considering that new problems may happen eventually, it is also important to predict further delays and understand their causes.

7.BEHAVIOR

As the air travels have a significant role in economy of agencies and airports, it is necessary for them to increase quality of their services. One of the important modern life challenges of airports and airline agencies is flight delay. . In addition, delay in flight makes passengers concerned and this matter causes extra expenses for the agency and the airport itself.

3.TRIGGERS TO ACT

The main public datasets and the papers analyzed, we have organized them main commonly attributes used into seven classes depicted in the data model . They abstract the main input attributes for delay pre-diction models.

4.EMOTIONS

We are going to develop a user friendly web application. Our algorithm gives the best accuracy in identifying the delays and can satisfy the passengers.

10.YOUR SOLUTION

This context, researchers created a Fight delay models for delay prediction over the last years, and this work contributes with an analysis of these models from a Data Science perspective. We developed a taxonomy scheme and it can be classified models in respect of detailed component

8.CHANNELS OF BEHAVIOR

A typical operation of a commercial Fight. Stages can take place at terminal boundaries, airports, runways, and airspace, being susceptible to different kinds of delays. Some examples include mechanical problems, weather conditions, ground delays, air traffic control, runway queues and capacity constraints